

REMARKS

In response to the outstanding Office Action, Applicants have added new claims 13-20 to the application. Support for the newly added claims is clearly present in the original specification. Claims 1-20 remain pending in the application. Reconsideration of the present application is respectfully requested in light of the foregoing amendments and the remarks that follow:

At the outset, Applicants gratefully acknowledge the indication in the Office Action that claims 8-12 are allowed. Applicants respectfully submit that the remaining claims in the application also patentably distinguish over the prior art.

In the Office Action, claim 8 was objected to, with the suggestion that the terms "region(s)" be amended to read "regions." However, this suggested change is not accurate. As indicated by the term "plurality" (meaning two or more) and the disclosure in paragraph [0035] of the specification, the present invention contemplates a multi-chamber header comprised of two adjacent passageways. In this case, there is only one "region" separating the two passageways, and therefore, the claim language should properly remain as it is, in order to accurately describe the invention. In view of these observations, reconsideration and withdrawal of the objection to claim 8 are respectfully requested.

In the Office Action, claims 1-7 were rejected under 35 U.S.C. § 103 as being obvious over Kobayashi et al. ("Kobayashi") in view of Damsohn et al. ("Damsohn"). Applicants respectfully request reconsideration of this rejection.

The Kobayashi and Damsohn references are not properly combinable and/or the PTO has failed to meet its burden of establishing a clear basis (absent Applicants' own teaching) for combining the two references. For example, Damsohn is relied upon for the crucial alleged "teaching" that "saw cutting and punching are art recognized equivalents." They are clearly not equivalents, at least not in the context of the present rejection. It is, of course, well understood that the question of whether two things are "equivalents" must be determined based on the context in which they are used. The crux of the PTO's argument is that it would have been obvious to modify Kobayashi's process by substituting for the initial punching step the purportedly equivalent step of cutting. This substitution would never have been considered an

obvious modification of Kobayashi's process by persons skilled in the art, for several reasons.

First, Kobayashi's process involves punching certain openings in a flat sheet of material. This is a significantly different context from the present invention, which calls for cutting a sawcut in pre-formed tube. It is not believed to be customary in the art to employ in a flat sheet punching process an auxiliary step of cutting with a saw, and in fact, the introduction of the more complicated sawing step into a punching operation would be seen as clearly disadvantageous by persons skilled in the art. As can be seen, for example, in Figures 52-55 of Kobayashi, the stamping operation is intended to produce final product from flat sheet material in a continuous series of stamping stations, and it would not have been within the skill in the art to interpose a separate cutting operation intermediate to the sequential stamping steps.

In addition, the essential purpose of Kobayashi's process is to produce (in the flat sheet) apertures having very special edge configurations, i.e., as shown in Figure 44 comprising vertical portion 134 and tapered surfaces 133. The tapered surfaces are configured to cooperate with each other in a special way once the flat sheet of material is bent into a tube. See paragraph bridging columns 14-15 of Kobayashi. It is not readily apparent how one would produce this special configuration with a cutting saw.

Accordingly, the subject matter of claim 1 would not have been obvious to the skilled artisan in view of Kobayashi and Damsohn, because Damsohn does not in any manner suggest the introduction of a cutting step into the very particular punching or stamping process for flat sheet material disclosed in Kobayashi. Such a modification of Kobayashi would never have been considered by persons skilled in the art, for at least those reasons noted above. The combination of references has been made in the hindsight knowledge of Applicants' invention. Consequently, the rejection of claim 1 should be withdrawn.

With regard to claims 2 and 7, the PTO has produced not a single shred of evidence that the feature of cutting the sawcut less than completely through the thickness of the tube wall would have been obvious to persons skilled in the art. Instead, in view of its failure to find any relevant teaching in the prior art, the PTO has improperly attempted to reverse the statutory burden of proof, i.e., by taking the

position that this claimed feature is obvious "because applicant has not disclosed that a sawcut depth which is less than the wall thickness of the header tube provides an advantage, is use for a particular purpose, or solves a stated problem." Such an approach to the issue of obviousness is clearly contrary to Section 103. The PTO has the initial burden of coming forward with evidence that supports a *prima facie* case of obviousness. Absent such evidence, a claimed invention is presumed to be patentable, i.e., whether or not there are any advantages and/or problems solved. For this reason alone, the rejection of claims 2 and 7 should be reversed.

Moreover, the PTO is simply incorrect in stating that the cutting of the sawcut less than completely through the tube wall does not have a stated purpose or advantage. In paragraph [0018] on page 5 of the present application, Applicants have pointed out that this feature "avoids 'sawdust' (cuttings) from penetrating as disturbing impurities into the header tube during the sawing step." This feature also allows tube openings to be readily formed in header tubes that are made thicker than normal, e.g., for use in high pressure air-conditioning systems that use CO₂ as the refrigerant. There is not the least teaching or suggestion in the prior art of this step and/or its attendant advantages. For this additional reason, claims 2 and 7 are believed to be allowable over the prior art.

The remaining dependent claims 3-6 are also allowable for at least the reasons set forth above with respect to their parent claims. So too are the newly added dependent claims 13-20, which are directed to additional preferred aspects of the present invention.

Applicants also request reconsideration and withdrawal of the rejection of claims 1-7 as being obvious over Mosier et al. ("Mosier") in view of Imoto et al. ("Imoto") and Larikka.

The PTO acknowledges that the primary reference used to support this rejection (of method claims) contains no substantial description of any method for fabricating the article that is illustrated in Figures 2 and 3 of Mosier. In fact, that patent refers to "piercing" of the tube openings and expressly states that "there is no cutting or removal of metal." (col. 2, lines 24-32) It is therefore difficult to imagine how this primary reference could serve as a basis for a proper rejection, since no other teaching

would be properly combinable with Mosier's basic process that would result in the present invention.

Imoto also fails to disclose a process that involves making a sawcut in the wall of a pre-formed tube. Imoto apparently does not describe how the elliptical hole is produced in the wall of the tube, and furthermore, in connection with the procedure for enlarging the elliptical opening (involving the pulling of a conical enlarging tool through the elliptical hole), Imoto does not explain how to insert the enlarging tool into the interior of the pipe! Apparently, the enlarging tool must be inserted from one end of the pipe, which is not very practical for mass production of header pipes having a multitude of tube slots. In any event, Imoto's process is (to the extent described) very different from the present invention and clearly not very suitable for substitution into a process for forming an aperture in a pre-formed tube.

Finally, Larikka is relied upon by the PTO to teach the use of a sawcut in the wall of a pipe. Actually, Larikka does not make a sawcut of a first length and width, which is then subjected to punching by a slot punch having larger length and width dimensions than the sawcut. Larikka employs a process that is characterized by two rotating tools, namely, a "hole-working means 21" and a "collaring means 10." The rotating means 21 has a "cutter or grinding stone whose diameter is small with respect to the diameter of the hole to be worked and which is rotated around its axis" This necessarily makes an elliptical hole in the pipe wall, which is then subjected to rotating "collaring means" 10 that has a working diameter that is variable and is determined by the rotation speed of the driver, to produce a collaring of the hole. Although the process and apparatus of Larikka could be used to produce the product shown in Mosier, that process does not teach the invention defined by claim 1. Nor does any combination of the processes disclosed by Imoto and Larikka, i.e., cutting Imoto's hole with the "hole-working means" of Larikka and using either of Imoto's or Larikka's tools to enlarge the hole does not produce the process claimed in claim 1.

For these reasons, it is respectfully submitted that claim 1 is not rendered obvious by the combination of these three references, which combination is in any event not properly supported by any basis found within the references themselves.

For reasons similar to those discussed above with respect to the first rejection of claims 2 and 7, Applicants here again urge that the prior art is completely devoid of any teaching of the subject matter claimed in claims 2 and 7.

Accordingly, this second ground of rejection should be withdrawn with respect to independent claims 1 and 7, as well as with respect to all claims dependent thereon, including newly added claims 13-20.

In view of the foregoing, further and favorable action in the form of a Notice of Allowance of claims 1-20 is believed to be next in order, and such action is courteously solicited. Should Examiner Jimenez believe that there are any minor matters that require resolution, he is invited to telephone the undersigned in order to resolve them and expedite the present application to allowance.

Respectfully submitted,

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